Hsiang-Yun Sherry Chien

EDUCATION

Johns Hopkins University	Baltimore, MD	08. 2016 - 05. 2021 (Expected)
Ph.D. in Psychological and Brain Sciences		
Johns Hopkins University	Baltimore, MD	08. 2016 - 05. 2018
M.A. in Psychological and Brain Sciences		
National Taiwan University	Taipei, Taiwan	09. 2009 - 06. 2013

B.A. in Electrical Engineering & Neurobiology and Cognitive Science program

RESEARCH AND WORKING EXPERIENCE

PhD Candidate in Computational Cognitive Neuroscience

Baltimore, MD

08. 2016 - present

- Using computational modeling and large-scale neuroimaging data analysis to investigate (1) how temporal context is constructed and forgotten in the human brain during narrative listening, and (2) what computational mechanisms implemented in recurrent neural network could give rise to the neural phenomena observed in (1)
- Developing and evaluating brain-inspired neural sequence models on natural language processing
- Mapping timescales of context dependence and discovering the functional organization of neural language models

Full-time AI Research Intern at Intel

Hillsboro, OR

10. 2020 - present

- Investigating mechanisms for longer context dependence in various recurrent neural network sequence models, and designing neural network models to cope with information over long timescale in natural language.

Full-time Research Assistant in Clinical Neuroscience

Taipei, Taiwan

07. 2013 - 06. 2016

- Investigating abnormal functional and structural connectivity of large-scale brain network and their impact on abnormal social and memory functions in children and adolescents with autism

Cognitive and Computational Neuroscience Summer School

NYUShangHai, China

07 - 08. 2017

- Project: Implementing deep temporal auto-encoder model for learning sequences using Keras, examining the model representation and performance through modifying bottleneck layers

Methods in Neuroscience Computational Summer School

Dartmouth College, NH

08. 2017

- Project: Examining the changes of time-varying functional connectivity corresponding to the event boundaries when people are watching a movie

SKILLS

- Programming languages & libraries: Python, Pytorch, Numpy, Scipy, Scikit-learn, Keras, Matlab
- Computational modeling experience: Recurrent neural network, Neural language models

PUBLICATIONS

- Chien HYS, Zhang J and Honey C J (2021) Mapping the Timescale Organization of Neural Language Models, International Conference on Learning Representations (ICLR) Under Review
- Chien HYS and Honey C J (2020) Constructing and Forgetting Temporal Context in the Human Cerebral Cortex, *Neuron* 106(4): 675-86
- **Chien HYS** and Honey C J (2018) Modeling the effects of temporal context on neural responses across the cortical hierarchy, **2018 Conference on Cognitive Computational Neuroscience, poster presentation**

- Himberger KD, **Chien HY**, and Honey CJ (2018). Principles of Temporal Processing Across the Cortical Hierarchy, *Neuroscience 389: 161-174*
- **Chien HY,** Lin HY, Lai MC, Gau SSF, and Tseng WYI (2015) Hyperconnectivity of the right posterior temporo-parietal junction predicts social difficulties in boys with autism spectrum disorder, *Autism Research 8(4):427-41*
- Chien HY, Gau SSF, Hsu YC, Chen YJ, Lo YC, Shih YC, and Tseng WYI (2015) Altered cortical thickness and tract integrity of the mirror neuron system and associated social communication in autism spectrum disorder, *Autism Research* 8(6):694-70
- **Chien HY,** Gau SSF, Tseng WYI (2016) Deficient visuospatial working memory functions and neural correlates of the default-mode network in adolescents with autism spectrum disorder, *Autism Research 9(10):1058-1072*

AWARDS

- 2017-2018 Taiwan Government Scholarship for Studying Abroad
- 2018 Conference on Cognitive Computational Neuroscience Student Travel Award
- 2020 G. Stanley Hall Scholar's Award for graduate student demonstrated exceptional scholarly progress in dissertation research

TEACHING/MENTORING EXPERIENCE

Teaching Assi	stant and Lecturer		
Spring 2019	AS.200.329.01	Real World Human Data: Analysis & Visualization	Johns Hopkins University
Fall 2017	AS 200.313.01	Models of Mind and Brain	Johns Hopkins University

<u>Undergraduate Research Assistant Mentoring</u>

- Jinhan Zhang (Computer Science) Johns Hopkins University Supervised Research: Mechanisms of Representing Multi-scale Temporal Context in Long Short-Term Memory Neural Networks (LSTMs)